# PHB**C/PHD**C

Heat Pump Package Unit

## User's Information Manual

**⚠ WARNING**

To avoid death, personal injury or property damage, do not use this unit if any part of the unit has been under water. Immediately call a qualified service technician to inspect the unit and to replace any part of the control system.

You have purchased a heat pump package unit. It is approved for an outdoor installation only and is designed to provide many years of safe and dependable service with proper installation, use, and maintenance. Take time to familiarize yourself with the information concerning unit installation, features, operation, and maintenance contained within this manual. Refer to the Specification Sheet for the needed clearance around the unit.

Please take the time to fill out your owner's registration card and mail it today. This will assist Amana in contacting you should any service or warranty information change in the future. When filling in the registration card, be sure to include the Model, Manufacturing and Serial Numbers, plus the installation date. If the registration card cannot be located, please call 1-800-843-0304 to register the unit.

Your warranty certificate is also supplied with the unit. Read the warranty carefully and note what is covered. Keep the warranty certificate in a safe place, so you can find it, if necessary. Before using this manual, check the serial plate for proper model identification.

***Installer*** *- Affix this manual, the Installation Guide, and Specification Sheet adjacent to the appliance.*

***Owner*** *- Keep all product literature in a safe place for future reference.*

*Due to policy of continual product improvement, the right is reserved to change specifications and design without notice.*

**THE INSTALLATION AND SERVICING OF THIS EQUIPMENT MUST BE PERFORMED BY QUALIFIED, EXPERIENCED TECHNICIANS ONLY.**

**⚠ RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION**

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# General Information

**WARNING**

To avoid death, personal injury, property damage or equipment damage, the following instructions must be observed regarding unit location, clearances, air requirements and operating procedures. Certain mechanical and electrical skills and tools are required to properly perform maintenance on the unit. Personal injury or death may result if installed or serviced by unqualified persons. Call the installing dealer or place of purchase for maintenance or servicing.

## Unit Location

This unit is approved for outdoor installation only. The picture on the Specification Sheet illustrates the required clearances to the unit.

Gutters or deflectors must be installed on the roof to prevent water from shedding on the unit.

While not all types of installations can be described in this manual, it is important to take safety measures in the surrounding area of the unit.

1. An area must be available to reach the unit in a clear and unobstructed path.
2. Establish a regular service and maintenance schedule to insure efficient and safe operation of the unit.

## Indoor Humidity

Relative humidity is the amount of water vapor in the air relative to the amount the air can hold at the same temperature. Example: At 40% relative humidity, the air could hold 2-1/2 times as much moisture (2.5 x 40 = 100%) before becoming saturated.

The colder the air; the less moisture it can hold. As air is warmed, its ability to hold moisture is increased. Example: A winter day, outdoor temperature 10°F, and relative humidity of 70%. If that air enters a home and is warmed to 72°F, the relative humidity will drop to 6% (very dry) if no more moisture is added.

Relative humidity is important to your health and home as proper humidification helps cut down on incidence of respiratory illness and helps keep air cleaner and fresher.

A good relative humidity is one just high enough to barely start condensation along the lower edges or lower corners of the windows. More than that can be damaging.

Frequent fogging or excessive condensation on inside windows indicates the indoor humidity level is too high for outdoor weather conditions. Damage to the building may result if the condition persists. (Condensation on inside of storm windows indicates loose inside windows. Adding weather-stripping to tighten inside windows usually corrects this problem.)

The following table shows the recommended maximum indoor humidity in relationship to the outdoor temperatures.

| Outdoor Temperature (ºF) | Maximum Indoor %RH |
|---|---|
| +20 | 35 |
| -10 | 30 |
| 0 | 25 |
| -10 | 20 |
| -20 | 15 |

# ATTENTION INSTALLING PERSONNEL

As a professional installer you have an obligation to know the product better than the customer. This includes all safety precautions and related items.

Prior to actual installation, thoroughly familiarize yourself with this manual. Pay special attention to all safety warnings. Often during installation or repair it is possible to place yourself in a position which is more hazardous than when the unit is in operation.

Remember, it is your responsibility to install the product safely and to know it well enough to be able to instruct a customer in its safe use.

Safety is a matter of common sense...a matter of thinking before acting. Most dealers have a list of specific good safety practices...follow them.

The precautions listed in this manual should not supersede existing practices but should be considered as supplemental information.

*Remember to leave this manual with the homeowner.*

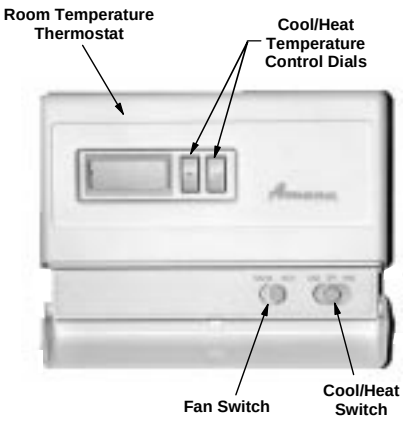
# General Information

## Thermostat

This unit will not operate properly without a good quality, correctly installed thermostat. It is very important that the thermostat be located where it can get the best "sensing" average room temperature. Be sure the thermostat is not exposed to hot or cold drafts or to hot or cold spots on the wall, such as those received from outside walls, walls with pipes inside, or from openings into the attic.

No matter the type or style, thermostat operation is basically the same. The most widely used types will control both heating and cooling functions and will have a Fan Switch with Auto and ON settings. On Auto, the Circulating Air Blower will cycle on/off, but if switched to ON it will run constantly.

There are thermostats that automatically switch from Heating to Cooling, or with night setbacks. The night setback, or multiple setback type, will lower the temperature at night or during the day when the building is unoccupied. Check with your installation contractor to ensure you have the best thermostat for your unit.




| Cool/Heat Switch | Fan Switch | System Status |
|---|---|---|
| OFF | AUTO | System is off |
| COOL | AUTO | System in cooling, fan cycles on and off |
| COOL | ON | System in cooling, constant fan |
| HEAT | AUTO | System in heating, fan cycles on and off |
| HEAT | ON | System in heating, constant fan |
| OFF | ON | System is off, constant fan |

**Figure 1**
**Typical Thermostat**

## Indoor Air Circulating Blower

Keep the blower access door and access panel in place except for inspection and maintenance.

## Compressor Protection Devices

The PHB**C and PHD**C compressors include components which are designed to protect the compressor against abnormal operating conditions. These components do not affect the operation of the indoor blower.

If you set your thermostat for cooling, and the indoor fan runs and circulates room temperature air but the compressor and outdoor fan do not turn on:

1. Wait five minutes, as the compressor protection device may be holding the compressor off.
2. Check the room thermostat to see if it is correctly set.
3. If the room thermostat is correctly set, call a qualified servicer to determine if one of the compressor protection devices has opened.

# Operating Instructions

**CAUTION**

This unit must not be used as a “construction heater” during the finishing phases of construction on a new structure. This type of use may result in premature failure of the unit due to extremely low return air temperatures and exposure to very dirty atmospheres.

1. Turn on the electrical power supply to the unit.
2. Place the room thermostat selector switch in the COOL or HEAT position (or AUTO if available, and if automatic changeover from cooling to heating is desired).
3. Set the room thermostat to the desired temperature.

**WARNING**

To prevent death or personal injury, always disconnect the electrical power before inspecting or servicing the unit. Since all of the compressor protection devices reset automatically, the contactor and outdoor fan may be energized when reset.

**NOTE:** These units are not designed to provide mechanical cooling at outdoor temperatures below 50°F. If low ambient cooling is needed, consult a qualified servicer.

# Routine Maintenance

## Replacing or Cleaning Filter

**IMPORTANT NOTE:** Never operate unit without a filter installed as dust and lint will build up on internal parts resulting in loss of efficiency, equipment damage and possible fire.

A return air filter is not supplied with this unit; however, there must be a means of filtering the return air. The filter(s) may be located in the return air duct(s). Consult with your installing dealer for the actual location of the return air filter(s) in your unit.

See Specification Sheet for filter sizes.

A dirty filter is the most common cause of inadequate heating or cooling performance. Filter inspection should be made at least every two months; more often if necessary because of local conditions and usage.

Dirty throwaway filters should be discarded and replaced with a new, clean filter. Dirty permanent filters should be washed with water, thoroughly dried and sprayed with a filter adhesive before being reinstalled. (Filter adhesives may be found at many hardware stores.) Permanent filters should last several years. However, should one become uncleanable, it should be replaced.

When installing a new filter or reinstalling an old one, always make certain the air flow arrows on the filter point in the proper direction.

## Clean Outside Coil (Qualified Servicer Only)

**WARNING**

To avoid death or personal injury due to electrical shock, disconnect the electrical power before cleaning the coil(s).

The coil with the outside air flowing over it should be inspected annually and cleaned as frequently as necessary to keep the finned areas free of lint, hair and debris.

## Indoor Air Circulating Blower Motor Lubrication

The air circulating blower motor bearings are permanently lubricated and do not require additional oiling.

## Outdoor Coil Fan Motor Lubrication

The fan motor is permanently lubricated and does not require additional oiling.

## Compressor

The compressor motor is hermetically sealed and does not require additional oiling.

# Any Questions?

Most of your questions can be answered by your local Amana dealer. Check with your dealer first if you need any further information regarding the operation, maintenance, or service of your unit. Then, if you should have any matters which are not resolved locally, or if you would like information on other heating and cooling products or appliances offered by Amana - please call us:

**CONSUMER INFORMATION LINE**

**Amana Toll-Free**

**1-800-843-0304**

**(Not a technical assistance line for dealers.)**

## Extended Service Plan

Ask your participating Amana dealer about Amana's extended service plan. It adds to the strong warranty with additional parts and labor coverage.

Amana Asure™

**EXTENDED SERVICE PLAN**